EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	12777	711/105.ccls. or 711/156.ccls. or 711/167.ccls. or 710/8.ccls. or 365/200.ccls. or 370/232.ccls. or 370/412.ccls.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:25
L2	301	(memory near4 (information or attribute)) with (transfer near3 rate)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:32
L3	4	2 same (heat$3 or temperature)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:33
L4	57	2 and (heat$3 or temperature)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:39
L5	131223	(maximum near3 (rate or speed))	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:40
L6	2498	(memory near4 (information or attribute)) with (heat$3 or temperature)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:41
L7	5744	(transfer near3 rate) with memory	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:42
L8	113	7 same (heat$3 or temperature)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:42
L9	17	8 same max$6	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 16:00

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L12	50	(US-20040264266-$ or US-20040267984-$ or US-20050156935-$ or US-20050156936-$).did. or (US-5953705-$ or US-6354299-$ or US-6360122-$ or US-6427086-$ or US-6459936-$ or US-6943802-$ or US-6992678-$ or US-7224369-$ or US-5745486-$ or US-5878404-$ or US-5206935-$ or US-5301219-$ or US-5350408-$ or US-5508922-$ or US-5511212-$ or US-6035434-$ or US-6101465-$ or US-6118792-$ or US-4380067-$ or US-4408323-$ or US-4414669-$ or US-4504944-$ or US-4592010-$ or US-4890327-$ or US-5239663-$ or US-5245636-$). did. or (US-5369635-$ or US-5453790-$ or US-5475621-$ or US-5513340-$ or US-5655113-$ or US-5724351-$ or US-5729152-$ or US-5745901-$ or US-5802600-$ or US-5836989-$ or US-5883670-$ or US-5981860-$ or US-6002178-$ or US-6006303-$ or US-6055418-$ or US-6134167-$ or US-H001917-$ or US-6201953-$ or US-3699525-$ or US-3806879-$).did.	US-PGPUB; USPAT	OR	ON	2007/06/13 16:42
S2	26824	fukushima.in.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 10:31
S3	204	fukushima-toshiaki.in.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 10:31
S4	6	matsui-yohichi.in.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:31
S5	7	nomura-taichiroh.in.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 10:32
S6	1	"10/730319"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 10:43
S7	0	10/73021	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 10:44
S8	1	10/730321	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 11:02

EAST Search History

S12	1	"7050959"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2007/06/13 15:22

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1 GPGPU: general purpose computation on graphics hardware

David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(63.03 MB) Additional Information: full citation, abstract, citings

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

2 A survey of structured and object-oriented software specification methods and techniques

Roel Wieringa
December 1998 **ACM Computing Surveys (CSUR)**, Volume 30 Issue 4
Publisher: ACM Press
Full text available: pdf(605.26 KB) Additional Information: full citation, abstract, references, citings, index terms, review

This article surveys techniques used in structured and object-oriented software specification methods. The techniques are classified as techniques for the specification of external interaction and internal decomposition. The external specification techniques are further subdivided into techniques for the specification of functions, behavior, and communication. After surveying the techniques, we summarize the way they are used in structured and object-oriented methods and indicate ways in w ...

Keywords: languages

3 Data placement in Bubba

George Copeland, William Alexander, Ellen Boughter, Tom Keller
June 1988 **ACM SIGMOD Record , Proceedings of the 1988 ACM SIGMOD international conference on Management of data SIGMOD '88**, Volume 17 Issue 3
Publisher: ACM Press
Additional Information: full citation, abstract, references, citings, index

Full text available: pdf(1.41 MB) terms

This paper examines the problem of data placement in Bubba, a highly-parallel system for data-intensive applications being developed at MCC. "Highly-parallel" implies that load balancing is a critical performance issue. "Data-intensive" means data is so large that operations should be executed where the data resides. As a result, data placement becomes a critical performance issue. In general, determining the optimal placement of d ...

4 Special section on sensor network technology and sensor data managment: The sensor spectrum: technology, trends, and requirements

Joseph M. Hellerstein, Wei Hong, Samuel R. Madden
December 2003 **ACM SIGMOD Record**, Volume 32 Issue 4

Publisher: ACM Press

Full text available: pdf(1.64 MB) Additional Information: full citation, abstract, references, citings

Though physical sensing instruments have long been used in astronomy, biology, and civil engineering, the recent emergence of wireless sensor networks and RFID has spurred a renaissance in sensor interest in both academia and industry. In this paper, we examine the spectrum of sensing platforms, from billion dollar satellites to tiny RF tags, and discuss the technological differences between them. We show that battery powered sensor networks, with low-power multihop radios and low-cost processor ...

5 The elements of nature: interactive and realistic techniques

Oliver Deusen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: pdf(17.65 MB) Additional Information: full citation, abstract

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

6 Level set and PDE methods for computer graphics

David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: pdf(17.07 MB) Additional Information: full citation, abstract, citings

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

7 A framework for dynamic energy efficiency and temperature management

Michael Huang, Jose Renau, Seung-Moon Yoo, Josep Torrellas
December 2000 **Proceedings of the 33rd annual ACM/IEEE international symposium on Microarchitecture MICRO 33**

Publisher: ACM Press

Full text available: pdf(194.74 KB)

ps(1.23 MB) Additional Information: full citation, references, citings, index terms
Publisher Site

8 A vectorized 3-D finite element model for transient simulation of two-phase heat transport with phase transformation and a moving interface
Mark Christon
November 1990 **Proceedings of the 1990 ACM/IEEE conference on Supercomputing Supercomputing '90**
Publisher: IEEE Computer Society
Full text available: pdf(1.56 MB) Additional Information: full citation, abstract, references

The implementation of a fully vectorized 3-D finite element model on the CRAY X-MP/Y-MP architecture is presented. Issues involved in vectorizing the computationally intensive modules of the finite element model are discussed. Fully vectorized numerical integration coupled with a preconditioned conjugate gradient linear system solver results in an application performance of 140 MFLOPS with the linear system solver achieving 162 MFLOPS (Y-MP single processor). The vector/scalar speedup for the fi ...

9 Exploiting perception in high-fidelity virtual environments: Exploiting perception in high-fidelity virtual environments
Additional presentations from the 24th course are available on the citation page
Mashhuda Glencross, Alan G. Chalmers, Ming C. Lin, Miguel A. Otaduy, Diego Gutierrez
July 2006 **ACM SIGGRAPH 2006 Courses SIGGRAPH '06**
Publisher: ACM Press
Full text available: pdf(5.07 MB) mov(68:6 MIN) Additional Information: full citation, appendices and supplements, abstract, references, cited by

The objective of this course is to provide an introduction to the issues that must be considered when building high-fidelity 3D engaging shared virtual environments. The principles of human perception guide important development of algorithms and techniques in collaboration, graphical, auditory, and haptic rendering. We aim to show how human perception is exploited to achieve realism in high fidelity environments within the constraints of available finite computational resources.In this course w ...

Keywords: collaborative environments, haptics, high-fidelity rendering, human-computer interaction, multi-user, networked applications, perception, virtual reality

10 A discrete, stochastic simulation model for the analysis and design of solar energy heating systems
Gerard F. Lameiro, Robert A. Rademacher
March 1978 **Proceedings of the 11th annual symposium on Simulation ANSS '78**
Publisher: IEEE Press
Full text available: pdf(618.59 KB) Additional Information: full citation, abstract, references, index terms

This paper presents a stochastic simulation approach to the generalized solar energy space heating performance analysis and design problem. Specifically, Markov chain models are developed to represent ambient temperature, insolation, hot water load and system performance. From the Markov transition probability matrices for these variables, long-term expected performance is calculated. The theoretical development is implemented in FORTRAN IV on a Control Data 6400 Computer System. Computatio ...

11 Special section: Reasoning about structure, behavior and function

B. Chandrasekaran, Rob Milne
July 1985 **ACM SIGART Bulletin**, Issue 93
Publisher: ACM Press
Full text available: pdf(5.13 MB) Additional Information: full citation, abstract, references, citings

The last several years' of work in the area of knowledge-based systems has resulted in a deeper understanding of the potentials of the current generation of ideas, but more importantly, also about their limitations and the need for research both in a broader framework as well as in new directions. The following ideas seem to us to be worthy of note in this connection.

12 PicoServer: using 3D stacking technology to enable a compact energy efficient chip multiprocessor

Taeho Kgil, Shaun D'Souza, Ali Saidi, Nathan Binkert, Ronald Dreslinski, Trevor Mudge, Steven Reinhardt, Krisztian Flautner
October 2006 **ACM SIGPLAN Notices , ACM SIGOPS Operating Systems Review , ACM SIGARCH Computer Architecture News , Proceedings of the 12th international conference on Architectural support for programming languages and operating systems ASPLOS-XII**, Volume 41 , 40 , 34 Issue 11 , 5 , 5
Publisher: ACM Press
Full text available: pdf(354.49 KB) Additional Information: full citation, abstract, references, index terms

In this paper, we show how 3D stacking technology can be used to implement a simple, low-power, high-performance chip multiprocessor suitable for throughput processing. Our proposed architecture, PicoServer, employs 3D technology to bond one die containing several simple slow processing cores to multiple DRAM dies sufficient for a primary memory. The 3D technology also enables wide low-latency buses between processors and memory. These remove the need for an L2 cache allowing its area to be re-a ...

Keywords: 3D stacking technology, chip multiprocessor, full-system simulation, low power, tier 1 server, web/file/streaming server

13 Special session: electrothermal design of nanoscale integrated circuits: Compact thermal models for estimation of temperature-dependent power/performance in FinFET technology

Aditya Bansal, Mesut Meterelliyoz, Siddharth Singh, Jung Hwan Choi, Jayathi Murthy, Kaushik Roy
January 2006 **Proceedings of the 2006 conference on Asia South Pacific design automation ASP-DAC '06**
Publisher: ACM Press
Full text available: pdf(195.00 KB) Additional Information: full citation, abstract, references, index terms

With technology scaling, elevated temperatures caused by increased power density create a critical bottleneck modulating the circuit operation. With the advent of FinFET technologies, cooling of a circuit is becoming a bigger challenge because of the thick buried oxide inhibiting the heat flow to the heat sink and confined ultra-thin channel increasing the thermal resistivity. In this work, we propose compact thermal models to predict the temperature rise in FinFET structures. We develop cell-le ...

14 Temperature-aware microarchitecture: Modeling and implementation

Kevin Skadron, Mircea R. Stan, Karthik Sankaranarayanan, Wei Huang, Sivakumar Velusamy, David Tarjan
March 2004 **ACM Transactions on Architecture and Code Optimization (TACO)**, Volume 1 Issue 1
Publisher: ACM Press

Full text available: pdf(1.42 MB) Additional Information: full citation, abstract, references, citings, index terms

With cooling costs rising exponentially, designing cooling solutions for worst-case power dissipation is prohibitively expensive. Chips that can autonomously modify their execution and power-dissipation characteristics permit the use of lower-cost cooling solutions while still guaranteeing safe temperature regulation. Evaluating techniques for this *dynamic thermal management* (DTM), however, requires a thermal model that is practical for architectural studies.This paper describes *HotSpo ...*

Keywords: *Dynamic compact thermal models, dynamic thermal management, dynamic voltage scaling, feedback control, fetch gating*

15 Seeing, hearing, and touching: putting it all together

Brian Fisher, Sidney Fels, Karon MacLean, Tamara Munzner, Ronald Rensink
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(20.64 MB) Additional Information: full citation

16 Sensornet services: TSAR: a two tier sensor storage architecture using interval skip graphs

Peter Desnoyers, Deepak Ganesan, Prashant Shenoy
November 2005 **Proceedings of the 3rd international conference on Embedded networked sensor systems SenSys '05**
Publisher: ACM Press
Full text available: pdf(444.47 KB) Additional Information: full citation, abstract, references, citings, index terms

Archival storage of sensor data is necessary for applications that query, mine, and analyze such data for interesting features and trends. We argue that existing storage systems are designed primarily for flat hierarchies of homogeneous sensor nodes and do not fully exploit the multi-tier nature of emerging sensor networks, where an application can comprise tens of tethered proxies, each managing tens to hundreds of untethered sensors. We present *TSAR,* a fundamentally different storage ar ...

Keywords: archival storage, indexing methods, wireless sensor networks

17 Implementing branch-predictor decay using quasi-static memory cells

Philo Juang, Kevin Skadron, Margaret Martonosi, Zhigang Hu, Douglas W. Clark, Philip W. Diodato, Stefanos Kaxiras
June 2004 **ACM Transactions on Architecture and Code Optimization (TACO)**, Volume 1 Issue 2
Publisher: ACM Press
Full text available: pdf(1.49 MB) Additional Information: full citation, abstract, references, index terms

With semiconductor technology advancing toward deep submicron, leakage energy is of increasing concern, especially for large on-chip array structures such as caches and branch predictors. Recent work has suggested that larger, aggressive branch predictors can and should be used in order to improve microprocessor performance. A further consideration is that more aggressive branch predictors, especially multiported predictors for multiple branch prediction, may be thermal hot spots, thus further i ...

Keywords: Energy aware computing

18 Technologies and devices for low-power: 4T-decay sensors: a new class of small, fast, robust, and low-power, temperature/leakage sensors

Stefanos Kaxiras, Polychronis Xekalakis
August 2004 **Proceedings of the 2004 international symposium on Low power electronics and design ISLPED '04**
Publisher: ACM Press
Full text available: pdf(169.85 KB) Additional Information: full citation, abstract, references, index terms

We present a novel temperature/leakage sensor, developed for high-speed, low-power, monitoring of processors and complex VLSI chips. The innovative idea is the use of 4T SRAM cells to measure on-chip temperature and leakage.Using the dependence of leakage currents to temperature, we measure varying decay (discharge) times of the 4T cell at different temperatures. Thus, decaying 4T sensors provide a digital pulse whose frequency depends on temperature. Because of the sensors' very small size, we ...

Keywords: 4T SRAM, architecture, leakage, sensor, temperature

19 Power reduction techniques for microprocessor systems

Vasanth Venkatachalam, Michael Franz
September 2005 **ACM Computing Surveys (CSUR)**, Volume 37 Issue 3
Publisher: ACM Press
Full text available: pdf(602.33 KB) Additional Information: full citation, abstract, references, index terms

Power consumption is a major factor that limits the performance of computers. We survey the "state of the art" in techniques that reduce the total power consumed by a microprocessor system over time. These techniques are applied at various levels ranging from circuits to architectures, architectures to system software, and system software to applications. They also include holistic approaches that will become more important over the next decade. We conclude that power management is a ...

Keywords: Energy dissipation, power reduction

20 A formal design notation for real-time systems

Miguel Felder, Mauro Pezzè
April 2002 **ACM Transactions on Software Engineering and Methodology (TOSEM)**, Volume 11 Issue 2
Publisher: ACM Press
Full text available: pdf(2.71 MB) Additional Information: full citation, abstract, references, index terms, review

The development of real-time systems is based on a variety of different methods and notations. Despite the purported benefits of formal methods, informal techniques still play a predominant role in current industrial practice. Formal and informal methods have been combined in various ways to smoothly introduce formal methods in industrial practice. The combination of *real-time structured analysis* (SA-RT) with *Petri nets* is among the most popular approaches, but has been applied onl ...

Keywords: Formal design specification, design of real time systems, formal analysis of design specification, structured design

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